

WHAT IS CLAIMED IS:

1. An optical lens system comprising:
a first optical lens having a first region and a perimeter region;
an electro-active refractive matrix coupled to the first region of the optical lens,
the perimeter region of the lens being removable to
configure the optical lens for a specific eyeglass frame.
2. The optical lens system of claim 1 wherein more than 30% of the perimeter region of the lens may be removed from the optical lens to configure the optical lens for a specific eyeglass frame.
3. The optical lens system of claim 1 wherein more than 60% of the perimeter region of the lens may be removed from the optical lens to configure the optical lens for a specific eyeglass frame.
4. The optical lens system of claim 1 wherein the electro-active refractive matrix includes patterned electrodes.
5. The optical lens system of claim 1 wherein the electro-active refractive matrix includes a diffractive element.
6. The optical lens system of claim 1 wherein the electro-active refractive matrix includes a plurality of pixilated elements.
7. The optical lens system of claim 1 further comprising:
a controller and a conductor bus coupled to the first optical lens.
8. The optical lens system of claim 7 wherein the controller includes a power source.

9. The optical lens system of claim 1 further comprising:
a second optical lens coupled to the first optical lens, the second optical lens covering at least a portion of the electro-active refractive matrix.
10. The optical lens system of claim 1 further comprising:
a conductor bus positioned along a radius of the first optical lens, the conductor bus coupling the perimeter region of the first optical lens to the electro-active refractive matrix.
11. The optical lens system of claim 1 further comprising:
a range finder coupled to the first optical lens; and
a power source coupled to the first optical lens.
12. The optical lens system of claim 1 wherein the electro-active refractive matrix is coupled to a carrier.
13. The optical lens system of claim 12 wherein a controller, a range finder, and a power source are coupled to the carrier and wherein the electro-active refractive matrix includes a diffractive element.
14. An optical lens system comprising:
a first optical lens having a first fixed outer surface, a second fixed outer surface, and an outer perimeter;
an electro-active refractive matrix coupled to the lens; and
a conductor coupled to the electro-active refractive matrix, the conductor accessible from the outer perimeter of the lens.

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15. The optical lens system of claim 14 further comprising:
a controller coupled to the conductor bus and coupled to the first optical lens.
16. The optical lens system of claim 15 wherein the controller includes a power source and wherein the outer perimeter is removable to modify the perimeter shape of the lens.
17. The optical lens system of claim 14 further comprising:
a second optical lens coupled to the first optical lens, the second optical lens covering at least a portion of the electro-active refractive matrix.
18. The optical lens system of claim 14 wherein the conductor bus is positioned along a radius of the first lens and couples the outer perimeter to the electro-active refractive matrix.
19. The optical lens system of claim 14 further comprising:
a range finder coupled to the first optical lens; and
a power source coupled to the first optical lens.
20. The optical lens system of claim 14 wherein the electro-active refractive matrix is coupled to a carrier.
21. The optical lens system of claim 20 further comprising:
a controller coupled to the conductor bus wherein the electro-active refractive matrix, the controller, the range finder, and the power source are also coupled to a carrier.

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22. The optical lens system of claim 14 further comprising:
a conductor encircling the outer perimeter of the first optical lens.
23. The optical lens system of claim 14 wherein the electro-active refractive matrix includes a plurality of patterned electrodes.
24. The optical lens system of claim 14 wherein the conductor is translucent.
25. An optical lens system containing an optical lens comprising:
a frame, the frame having a lens support and a temple region;
an optical lens coupled to the lens support, the optical lens including an electro-active refractive matrix;
a controller coupled to the electro-active refractive matrix;
and,
a range finder coupled to the controller.
26. The lens system of claim 25 further comprising:
a strap, the strap coupled to the frame and the controller.
27. The lens system of claim 25 further comprising:
a signal conductor coupling the controller and the electro-active refractive matrix, the signal conductor passing through a lumen in the temple region of the frame.
28. The lens system of claim 25 further comprising:
a power source coupled to a nose pad of the frame.

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29. The lens system of claim 25 wherein the range finder and a power source are coupled to the frame.
30. The lens system of claim 25 wherein the lens support contains at least one signal conductor.
31. A method of assembling an optical lens system for use in eyewear comprising:
 placing an electro-active refractive matrix into a cavity of a first optical lens; and
 covering at least a portion of the electro-active refractive matrix with a second optical lens.
32. The method of claim 31 further comprising:
 coupling a controller and a power source to the electro-active refractive matrix.
33. The method of claim 31 further comprising:
 edging the first optical lens to fit a designated eyewear frame.
34. The method of claim 31 further comprising:
 growing a power source on the first or second optical lens.
35. The method of claim 31 wherein placing the electro-active refractive matrix into the cavity includes applying a flexible membrane onto a surface of the optical lens.
36. The method of claim 31 further comprising:
 forcing contact leads from the controller into a communication bus embedded in the first lens.

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37. The method of claim 31 further comprising:
wrapping the first optical lens with a signal conductor.
38. The method of claim 31 further comprising:
modifying the refractive power of either the first lens or the second lens.
39. The method of claim 31 further comprising:
edging and cutting the recess into the first lens.
40. The method of claim 31 wherein the cavity is centered in the line of sight of a user's eye.
41. A system for controlling an electro-active refractive matrix in an optical lens, the system comprising:
a radiation sensor coupled to a power source;
a light emitting diode coupled to a power source; and
a controller coupled to a power source.
42. The system of claim 41 wherein the radiation sensor and the light emitting diode are juxtaposed to one another and are both coupled to the controller.
43. The system of claim 41 wherein the power source is attached to the controller.
44. The system of claim 41 wherein the controller is programmed to generate signals to compensate for the refractive error of a predetermined user.

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45. A method of assembling eyewear comprising:
providing a lens system having an electro-active refractive matrix, the lens system also having a fixed outer surface;
modifying the shape of the lens system by edging an outer perimeter of the lens system; and
placing the lens system into an eyewear frame.
46. The method of claim 45 further comprising:
coupling a conductor of the lens system to a conductor of the eyewear frame.
47. The method of claim 45 wherein the electro-active refractive matrix includes a plurality of individual pixels.
48. An optical lens system comprising:
an optical lens having a first fixed lens face and a second fixed lens face;
an electro-active refractive matrix positioned between the first fixed lens face and the second fixed lens face; and
a plurality of busses coupled to said electro-active refractive matrix.
49. A method of assembling an optical lens system comprising:
providing a lens blank, the lens blank having an electro-active refractive matrix; and
removing material from the lens blank to configure the lens blank to fit within a specified eyeglass frame.
50. The method of claim 49 wherein the electro-active refractive matrix contains patterned electrodes.

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